

## ABSTRACT

Each host/node in a network includes a protocol stack (such as TCP/IP), a host channel adapter (HCA) to interface the host to a local network or fabric, and a LAN Emulation (LANE) driver for emulating a LAN network to the protocol stack. Each host in the local network is assigned a global (or legacy) physical address (e.g., a IEEE 802.3 Ethernet MAC address or the like) and a network address (such as an IP address). In addition, the LANE driver maps the global (or legacy) physical address to the local physical address. According to an embodiment, the local physical address is embedded within the global (or legacy) physical address to avoid the use of a specialized ARP protocol. A connection oriented virtual interface (VI) channel is established between a first node and each of the other nodes in the network. The HCA maps the local physical address (e.g., local MAC address) of another node to the VI channel used to communicate with the other node. A standard or legacy ARP message can then be broadcast to the other nodes over the VI channels, and the local physical (e.g., MAC) address of the responding node can be determined from the global or legacy physical address.